2nd Annual NASA/JPL Small Business Symposium and Awards Ceremony

Small Businesses Building a High Tech Industrial Base for the Future

Mr. Chuck J. Gay
Deputy Associate Administrator
Science Mission Directorate

November 2009

Science Mission Directorate

- SMD's Mission: Explore the Earth, Moon, Mars, and beyond; Chart the best route of discovery; and reap the benefits of Earth and space exploration for society.

- SMD's Goals: (a) Study Earth from space to advance scientific understanding and meet societal needs; (b) Understand the Sun and its effects on Earth and the solar system; (c) Advance the scientific knowledge of the origin and history of the solar system; and (d) Discover the origin, structure, evolution, and destiny of the universe.

- SMD's Priorities: (a) Answer fundamental scientific questions with innovative space missions; (b) Expand the recognized public benefits of NASA science; (c) Design and implement programs executable within the budget; (d) Promote U.S. leadership across space and Earth science; and (e) Advance science as humans explore beyond Earth orbit.

NASA Science Mission Launches
(CY09-CY18)

As of 10/8/09

For planning purposes only

NASA Mission on US ELV

Joint NASA - International Partner Mission

ESMD mission with SMD participation

International Mission with Substantial NASA Contribution

Reimbursable for NOAA

NASA Mission on STS

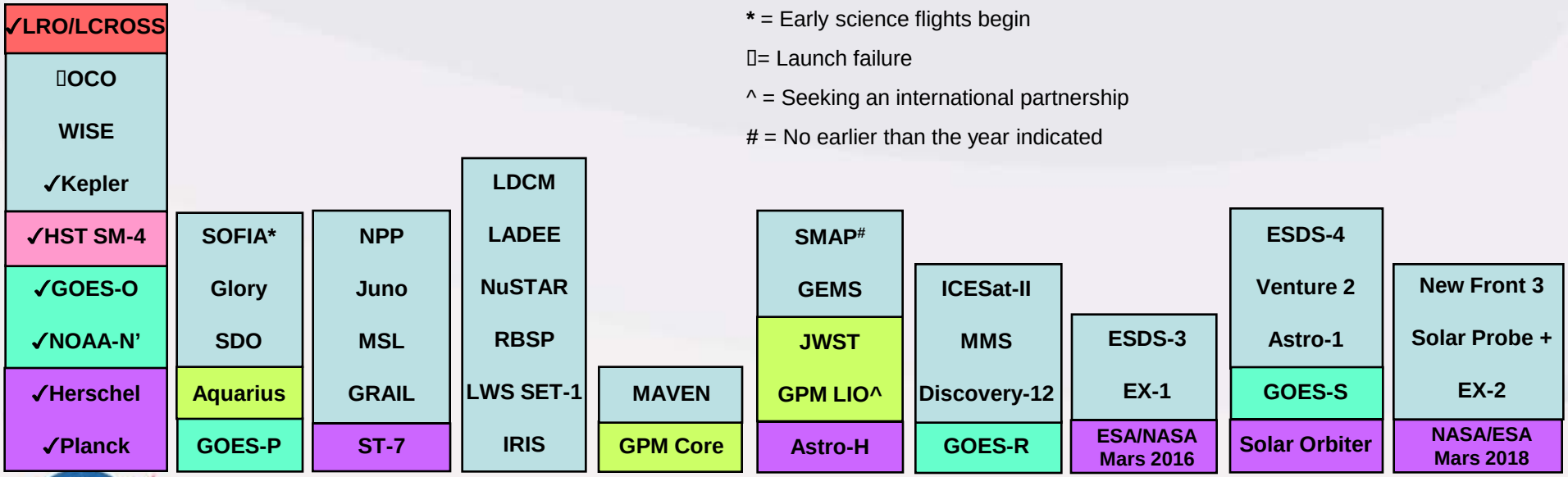
√= Successfully launched to date

***** = Early science flights begin

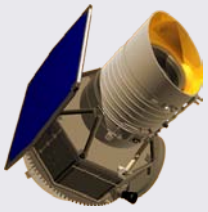
□= Launch failure

^ = Seeking an international partnership

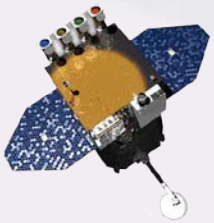
= No earlier than the year indicated



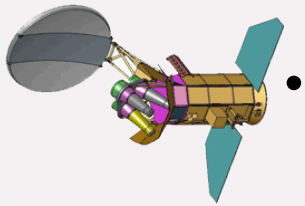
Current Missions



- **WISE** (Wide-field Infrared Survey Explorer) will provide an all-sky survey that will search for the origins of planets, stars, and galaxies and create an infrared atlas whose legacy will endure for decades. Competed mission in the Explorer Program. JPL has contracts with Ball Aerospace Technology Corporation (spacecraft) and Space Dynamics Lab (payload).



- **SDO** (Solar Dynamics Observatory) will obtain nearly continuous observations of the interior, photosphere, and inner corona of the Sun to develop the drivers and diagnostics for solar activity, cornerstones for an operational space weather capability. Competed mission in the Living With a Star Program. GSFC has a contract with Lockheed Martin.



- **Aquarius** will determine the ocean's circulation pattern by measuring global sea surface salinity. JPL has instrument contracts with Alliant Techsystems (ATK), Sierra Microwave, and Artemis.

Current Missions

- **Glory** will measure global aerosols, liquid cloud properties, and solar irradiation.

  Strategic mission in the Earth Science Program. GSFC issued prime contracts to Raytheon, University of Colorado, and Orbital Sciences Corporation.

- **MSL** (Mars Science Laboratory) will determine whether Mars ever had an environment capable of supporting microbial life.

  Strategic mission in the Mars Exploration Program. JPL is the system integrator and issued subcontracts to Lockheed Martin, Aeroflex Inc., and Starsys Inc.

- **SOFIA** (Stratospheric Observatory for Infrared Astronomy) is an airborne observatory that will study the universe in the infrared spectrum.

  Strategic mission in the Cosmic Origins Program. DFRC is the system integrator and issued subcontracts to Universities Space Research Association, L-3 Communications and CSC/Dyn Corporation.

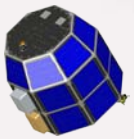

Jason SeaWiFS
QuikSCAT
ACRIMSAT
CloudSat
EO-1
Aqua
SORCE
TRMM
Terra
GRACE
ICESat
CALIPSO
Aura
Voyager (2)
*Cluster(4)
Geotail
TWINS
FAST
TRACE
Wind
STEREO (2)
TIMED
*SOHO
RHESSI
*Ulysses
*Hinode
Polar
AIM
ACE
THEMIS (5)
RXTE
*INTEGRAL
Chandra
GALEX
WMAP
Swift
Hubble
Spitzer
*Suzaku
*XMM
*Mars Express
Messenger
New Horizons
NExT
Dawn
EPOXI
Cassini
Mars
MRO
Mars Odyssey
Phoenix
Mars Rovers

Future Missions

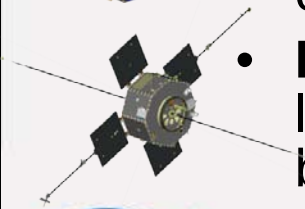
- **NuSTAR** will be the first focusing high energy X-ray mission, opening the hard X-ray sky for sensitive study for the first time. NuSTAR will search for black holes, map supernova explosions, and study the most extreme active galaxies.

- **SMAP** (Soil Moisture Active-Passive) will use a combined radiometer and high-resolution radar to measure surface soil moisture and freeze-thaw state to improve our understanding of regional water cycles, ecosystems productivity, and processes that link the water, energy, and carbon cycles.

- **JUNO** will investigate Jupiter's origins, interior structure, deep atmosphere, and magnetosphere.



- **LADEE** (Lunar Atmosphere and Dust Environment Explorer) will characterize the Moon's atmosphere and lunar dust environment.



- **RBSP** (Radiation Belt Storm Probes) will discover the source, loss, and transport processes that govern the Earth's radiation belts.

Contact Us

Science Mission Directorate

For any questions or comments, please contact:

Mr. Cuong Huynh, SMD Policy Analyst
202-358-0726 (work)
Cuong.q.huynh@nasa.gov
http://nasascience.nasa.gov/